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Chait et al.

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(54) **METHOD AND PRODUCT FOR THE SEQUENCE DETERMINATION OF PEPTIDES USING A MASS SPECTROMETER**

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(52) **U.S. Cl.** **436/89; 436/173; 436/174; 436/178; 250/281; 250/282**

(58) **Field of Search** **436/89, 173, 174, 436/178; 250/281, 282**

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(57)

ABSTRACT

Method is described for sequencing polypeptides by forming peptide ladders comprising a series of polypeptides in which adjacent members of the series vary by one amino acid residue and determining the identity and position of each amino acid in the polypeptide by mass spectroscopy.

45 Claims, 16 Drawing Sheets

1-2-3-4-5-6-7-8-9.....n-(OH)

**INTACT STARTING
PEPTIDE CHAIN**

(X)-1-2-3-4-5-6-7-8-9.....n-(OH)

(X)-2-3-4-5-6-7-8-9.....n-(OH)

(X)-3-4-5-6-7-8-9.....n-(OH)

(X)-4-5-6-7-8-9.....n-(OH)

(X)-5-6-7-8-9.....n-(OH)

etc.